Subject: Design and Technology

Kay Stage 3 Curriculum Plan

Year: 7

Department Information:

Technology as a subject exists in the curriculum to inspire, challenge and motivate students to solve problems and create beautiful products that work well. As we guide students through the KS3 Design and Technology curriculum, they will have the opportunity to work with a variety of materials and tools, explore different design processes, and gain a deeper appreciation for the impact of design and technology on our daily lives. We aim to inspire our students to become innovative thinkers, capable of making informed decisions in a rapidly changing world.

Curriculum aims and intent:

Develop creative, technical and practical expertise
Develop an awareness of health and safety expectations in the workshop and know how to minimise risks.
Build a foundation of knowledge about tools and materials, with a focus on woods and manufactured boards.
Demonstrate skill with a variety of hand tools and produce a high-quality pencil box that meets a specific user's needs and wants.
Form a base skill-set in computer-aided design and manufacture (CAD/CAM).
Learn about isometric drawing and practise this skill to share ideas.
Explore the work of existing designers to inform own work.

In addition, the Year 7 D&T curriculum aims to ensure students can express themselves creatively through their work and are able to build their confidence with a variety of techniques. The primary project in Year 7 is a wooden pencil box with a laser-engraved panel.

Resources used to support learning:

Booklets are produced for classwork.
Seneca is accessible for all students from the start of the year.
There are some videos posted to students on Teams with recommendations and guidance on additional projects they can undertake as an extension.
There is an afterschool 'makers' club that runs from 3-4PM every Tuesday. Students are encouraged to attend and book via EduLink.
3D printing is available via the makers club and at certain break times.

Home Learning:

Drawing tasks to support in-class learning.
Students will be asked to produce fact-files and knowledge organisers about woods and manufactured boards
The pencil box is decorated at home before a finish is applied at school.

Assessment:

The pencil boxes will be assessed against a skills grid which includes accuracy, quality of work, level of finish, creativity, effective use of class time, health and safety, complexity of work (CAD) and more.

There is a written test which assesses students' knowledge of woods, tools and equipment, measuring, drawing and materials.

Students will have one piece of isometric drawing work assessed.

How parents can help their child:

Encourage students to practise drawing skills.
Ask students to help with DIY and odd-jobs around the house, such as gardening, that will help them to develop practical skills.
Support pupils to play with TinkerCAD: Free online CAD software (this can be used for 3D printing in school).

Term	Summary of work being covered	Knowledge, Understanding and skills assessed	How the work is assessed	Career Links
1	Health and safety Use of a coping saw/woodworking Drawing techniques Manufactured boards Timbers (Hardwoods and softwoods)	Responsible and safe behaviour/conduct Skill with hand tools (coping saw) to create a small jigsaw puzzle Ability to draw in isometric	Coping saw driving license (tool induction) Isometric drawing assessment Low stakes quizzes	Carpentry, technical drawing (engineer)
2	Wood joints Measuring/marking out Cutting Gluing Assembly	Information retention and application regarding materials and tools Accuracy and attention to detail Skill with a variety of hand tools	Written test at the end of term two covering materials, tools, drawing, manufacture of the pencil box, measuring, maths	Materials science
3	Finishing (sanding) 2D Design Pencil box decoration Application of finishes Existing designers	CAD skills and creativity when producing the laser-engraved panel Creativity Design research skills	Pencil box assessed against skills grid which includes accuracy, quality of work, level of finish, creativity, effective use of class time, health and safety	CAD - Product designer, architect, engineer
4				
5				
6				